WMS IMPLEMENTATION

WHAT YOU CAN DO TO KEEP THE PROJECT ON BUDGET!

Under-planned elements of a WMS Project

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INTRODUCTION

"If you fail to plan, you plan to fail," Benjamin Franklin supposedly said. Many companies are well intentioned as they venture down the path toward a new Warehouse Management System (WMS) implementation, but they have an incomplete picture of everything needed to navigate the road ahead. Many – perhaps even most - companies that embark upon WMS projects unpleasantly discover early in the project that they underestimated the degree of effort, on their part, to bring the effort to fruition.

Signing a contract to purchase or subscribe to a WMS is a big milestone. It has required significant time and energy, but too much focus is often given to simply selecting the WMS supplier. Often, there is a realization late in the process that much of the time, effort, and cost necessary to successfully implement the system is *not* the responsibility of the WMS supplier. Many companies assume that since the WMS software developer is "implementing" the software system, the developer is the entity who ultimately "owns" the success of the project. Such organizations often fail to realize that the software developer's definition of "success" on a project may simply mean that the software "works" and is bug-free when it is turned on. This is a far different definition of success than the one held by the company that is purchasing the software. The true definition of success likely includes elements such as improving labor efficiency and accuracy and reducing order fulfillment cycle times. In nearly every case, the WMS software developer is not planning to be - or equipped to be - the guardian of this holistic definition of project success.

Experienced implementors know that choosing the WMS supplier is only fifty percent of the equation necessary to have a successful outcome.

The company implementing the WMS system must be also be knowledgeable enough and involved enough throughout the implementation process to make sure the project is a success.



WMS VENDOR TASKS ARE 50% OF EQUATION

Companies on the verge of selecting a WMS provider would do well to ask that vendor, "what *isn't* included in your project plan?"

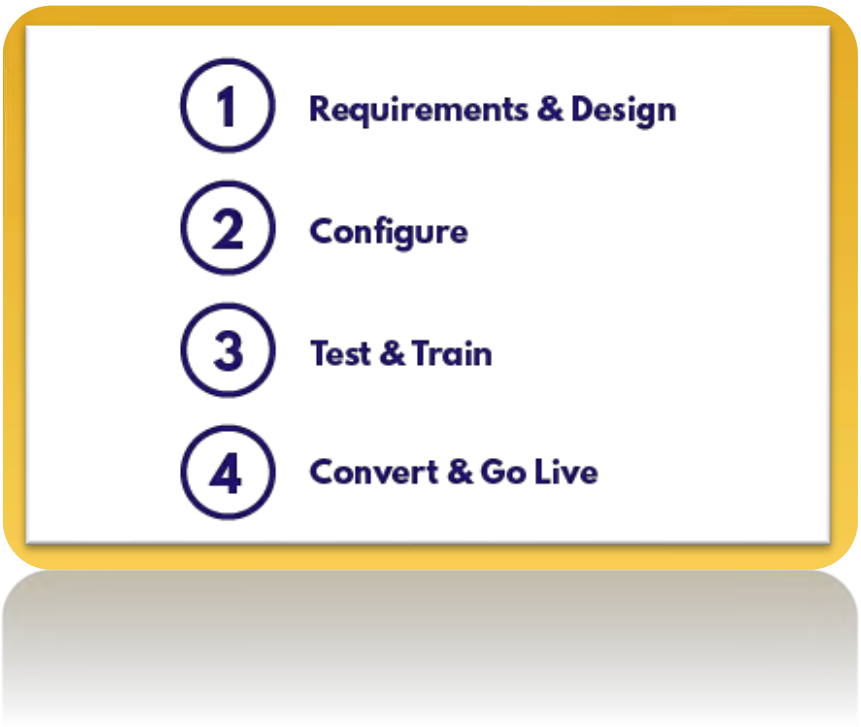
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This report will provide clarity on the common misses many companies experience when planning WMS implementation projects.

BACKGROUND: INITIAL WMS PROJECT PLANS (4 PHASES)

Most standard WMS project plans can be divided into four distinct phases. This approach has changed very little in the last thirty years. To establish a baseline of understanding, each of these phases is described further below. The length of phases can vary significantly based on complexity of the operation, fit of the WMS product, and other factors. Phase One: Requirements and Design

WMS projects usually start with a kickoff meeting and then a process whereby the vendor gains an understanding of the client's needs through observations, interviews, and meetings. The goal of this phase is to document how the functional solution will need to work along with defining interfaces to outside systems the WMS will need to interact with. This phase typically concludes with a client signoff that designs are complete and meet their needs.



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PHASE ONE – REQUIREMENTS & DESIGN

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BEFORE YOU BEGIN

It is worth noting that some of the most successful WMS implementations begin with a thorough definition of future state processes which is created *before* the WMS vendor is even selected. After all, most companies that implement a new WMS system do not do so simply for the sake of having a more modern software system. WMS projects are usually undertaken to provide the company with some operational benefits that will allow them to reduce labor costs or improve throughput.

These benefits are enabled by improved processes in the distribution center, which will be supported by the new WMS. So, it often makes sense to begin the entire WMS vendor selection process with an up-front exercise to define business processes like warehouse pick methodologies and receiving and put-away rules. These process definitions can be used as a means of evaluating potential vendors to make a better supplier selection decision. If this documentation has been created up-front, then Phase 1 of the implementation involves simply refining the desired processes and potentially tailoring them around the chosen WMS vendor's standard functionality to the extent possible.

PHASE TWO: CONFIGURE

This phase may have a different label depending on the vendor's preferred terminology, such as adapt, build, configure, setup, or program. During this phase the primary goal is for the WMS vendor to develop and/or setup the system to function as agreed to in the design phase. This includes the WMS-side of any interfaces. The client must also develop and/or setup the systems that will interface to and from the WMS

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in parallel streams of work. This phase typically concludes when the system is ready for more comprehensive testing.

PHASE THREE: TEST & TRAIN

This phase may alternatively be named “prepare for cut-over,” “validate,” or some similar term. During this phase the client generally starts leading more of the project plan and timeline. A variety of testing tasks like Integration Tests, Volume Tests, Mock Go-lives, and User Acceptance Testing (UAT) are contained in this phase. The phase typically concludes when the client is satisfied that the integrated solution is tested, documented, and ready to move forward into production. Users of the system begin to be trained in this phase as well.

PHASE FOUR: CONVERT & GO-LIVE

This phase may alternatively be called “cut-over” or “deploy.” During this phase the production inventory is established in the new WMS and the operation is cut over to the new system. The phase typically concludes in the vendor project plan once support is transitioned to a totally remote mode, often involving a shift to the vendor’s support or maintenance team.



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WHAT THE WMS VENDOR "ISN'T DOING"

A key to understanding the scope of tasks which the implementing company must undertake often starts with a realization of the list of project elements which will likely not be performed by the WMS vendor.

The image below lists many of these tasks.



PROJECT ELEMENTS NOT PERFORMED BY VENDOR

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UNDER PLANNED ELEMENTS OF PHASE 1*: Design*

PRODUCT TRAINING

At the start of Phase 1, it is recommended that the core client project team receive initial training. Ideally this is in the form of product functional training for the operations team and additional technical training for IT personnel. During this training, the client can begin to grasp different possibilities for their business and better understand potential solution gaps. This exposure is very beneficial during the discussion of requirements and review of designs and documentation during the phase.

If the WMS vendor isn't large enough to offer standard training classes that work well with the project timeline, consider scheduling an onsite training where the basics of locations, zones, item, and user attributes can be explained along with a walkthrough of all major mobile device functions.



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COMMUNICATION PLANNING

While often overlooked in Phase 1 of the project, communication planning is an important item to formalize.

- Is the project team clearly charted with a precise definition of each role?
- What is the cadence and method of communication within the project team?
- How, where, and when will the project team communicate the project to the larger audience within the affected DC?
- What other departments within the business should the project team be communicating with and how often?
- Does the company implementing the WMS need to make their customers aware of this system change? If so, at what point and how does the company expect this to impact their behavior?
- Is the information or documentation the customer received expected to change?

All too often, companies do not spend time in Phase 1 formally discussing these items. Responsibilities are not assigned and agreed to. Project communication expectations on agendas, minutes, status reports, project plan updates, and team calls aren't met and a common understanding by the whole team is less than ideal. Customer-facing communications are executed poorly (if at all) later in the project as available time becomes compressed.



UNDERSTANDING LOGGING AND DATA

Define phase meetings and resulting design documents traditionally spend very little time on the records produced by the WMS solution as activities are performed. For example, in reviewing mobile device activities and the step by step processes that warehouse personnel will perform, operations leaders should ensure that they are clear on the data that is logged each time a "send" happens. Will this data provide sufficient information when research is required in the future? Are all codes, reasons, transaction names, etc. clear in the way they are logged? Is the data retention long enough to support the operation's needs? For the most part, a review of this information does not add significant time to the design process but may raise issues which are better resolved early in the project.

MONITORING AND MEASURING THE OPERATION?

Proper attention to managerial screens, dashboards, reports, and events are often neglected during Phase 1. A mindset exists of "we'll worry about that later once the system is running," and often the company plans to review these items during a later conference room pilot (CRP). However, it is prudent to set aside the time to work through these elements early in the process. Companies need to really understand how they will manage their business in the new environment and time spent on these areas often reveals design shortcomings. For each functional area, companies should review the operations screens managers will use hourly and daily. Are the proper search fields available? Are the data elements which are presented sufficient for the business needs? Doo the dashboards and reports easily show progress against the larger facility and department goals? Modern WMS systems support data triggered events; what exception notifications must the operations staff receive so that action can be taken?

DISCUSSING RISKS EARLY

Key project risks should be discussed in Phase 1 and documentation to capture risks should be developed by the project team at that time. Often, when risk is discussed late in a project, the conversation is only focused on the problems preventing a cut-over or problems forcing go-live delays. Documented risks should be presented to the company's management team or a steering committee so that mitigating steps can be taken early in the project. A regular review of risk throughout the project should be established.

UNDER PLANNED ELEMENTS OF PHASE 2: *Configure*

TEST PLANS

During Phase 1, the project team may agree on a general set of tests that need to be performed and have testing and timelines captured on their project Gantt chart. However, companies often fail to expand this to another level during Phase 2 by developing a more comprehensive test plan.

Who will be involved in each test? What environment will testing take place in? How will test data be established? How, where, when, and who will do any re-testing? Thinking though scenarios and exceptions and building the data to support testing requires substantial time and effort. When this time window for test planning is missed, testing can become unorganized and rushed during Phase 3 (Testing) in order to stay on track, or sometimes Phase 3 stretches out and delays cut over.



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CORE DATA GATHERING

Correctness and completeness of core data is essential to good testing and later a solid cut-over to production. Early in Phase 2, agree on data gathering assignments, and what instrument will be used to store "gold" data (master data). Determine whether certain data can be extracted from existing systems, and the deadlines for different data elements to be compiled. Locations, users, zones, equipment types, equipment lists, hold codes, reason codes, and disposition codeshare examples of data needed to build a foundation early - well before Phase 3 (Testing) starts.

CONFERENCE ROOM PILOTS

Does your project team have one or more conference room pilots (CRPs) built into your Phase 2 project schedule? This is a vital activity in a WMS implementation. CRPs are a guided walkthrough of the WMS system and provide an opportunity to review any development or configuration that was completed in Phase 2.

The CRP allows all parties to see the system in action with realistic data. CRPs are an essential element of the client project team continuing to become more educated on the WMS system. Do any team members now realize something was missed in the design phase? If so, adjustments should be made prior to the start of Phase 3.

UNDER PLANNED ELEMENTS OF PHASE 3:
Test & Train

SOP DEVELOPMENT

Too many DCs operate without Standard Operating Procedures (SOPs). By nature, a WMS implementation project already forces the project team to stop and think through a more optimal future state of the operation. This is a great time to ensure that SOPs are up-to-date and thorough. Effective SOPs will show step-by-step instructions with system screen shots that can be used in the future when training new employees. In addition to this, SOPs should also cover common operations and systems exceptions, physical steps, and communications that are important to performing each job.

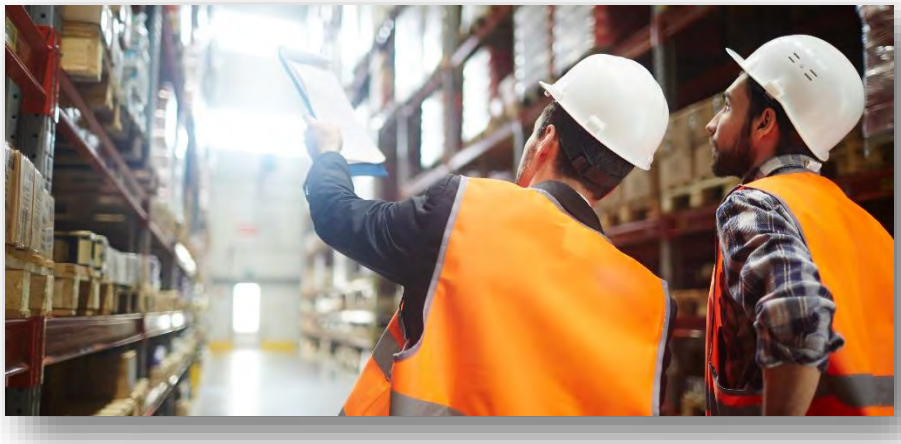
TRAINING PLANNING

Companies should build a training plan into all WMS implementations before system testing is completed. This plan is a comprehensive plan that answers questions such as:

- How should the training be broken up into digestible classes?
- How long will each class be?
- What training should be held in a classroom versus the facility floor?
- How interactive will this training be, and what data setup does it require?
- Are physical props needed?
- What equipment needs to be setup and in place?
- How many team members can be reasonably trained in one class?
- Is cross-training part of the plan pre-cut-over?
- What classes should each team member attend?
- When can training classes be schedule given the need for the distribution center to remain operational?
- Will the company provide tests to team members after classes to understand their level of comprehension?

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Just getting training "done" after the system is tested and working is not a good approach. A lack of training on how to monitor for, research thoroughly, and handle issues and exceptions is one of the common failures in WMS implementation projects.



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CUT-OVER PLANNING AND REALISTIC EXPECTATIONS

It is vital to develop a detailed cut-over plan that has hourly breakdowns through the physical inventory or systematic inventory conversion period. The plan should detail the tasks, the resources involved in coverage, how to contact resources, regular status updates, and gates that will be used to continue or stop the plan based on results. The organization should not go into panic mode because someone couldn't be reached on a Saturday or was unsure if prerequisite steps had been completed. Cut-overs are too critical to simply say "all hands-on deck" or to generalize on the tasks needed to successfully move production from one warehouse system to another.

Companies must set the proper operational plan, staffing requirements, and management expectations on a WMS go-live. Moving to a new WMS is a significant disruptor to a distribution center environment. Plan for a dip in productivity for the facility for a period of weeks after a new WMS is implemented (for more information on this, see Commonwealth's whitepaper titled, "Beating Murphy's Law on Warehouse Automation Projects." More management hours and staff overtime may be required initially than before the system was cut over.

UNDER PLANNED ELEMENTS OF PHASE 4: *Convert & Go-Live*

ISSUE ESCALATION AND TEAM MEETINGS

It is important to pre-establish status update meeting times, attendees, and agendas before a cut-over on the WMS. The post-cut-over period is a hectic time but quick status meetings to make sure everyone on the project team is aligned on top issues and estimated timelines is worthwhile. Make sure that the team has agreed on questions like these before the cut-over:

- How will issues be reported?
- How will are issues be accepted and logged?
- How will issues be escalated or given an increased priority?
- What system environment are any issues fixed in?

Chaos and disorganization in the immediate wake of a go-live can exacerbate minor issues and drain time from the staff needed to address them. For instance, if certain key team members repeatedly answer the same question dozens of times from dozens of different individuals who wander into the "war room," it can be almost impossible to methodically work through a prioritized list of issues to address**. Companies can avoid that frustration by establishing a more formal plan for issue management and communication.**

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BROAD COMMUNICATIONS AND PERCEPTION MANAGEMENT

During go-live, companies should have quick meetings with the warehouse staff at the start and end of each shift. In the first days after cut-over, it is important to re-emphasize that this is an important initiative for the company, and discuss the fact that issues are normal and that everyone will work through them as a team. Project leaders should re-state where and how issues should be reported and any other key process elements to focus on. At the end of the shift, it is helpful to recap any reported issues, letting everyone know that their issues are captured and important. Communicating any "learnings" or "best practices" that have been realized that shift or that day is also a key way to show all stakeholders that there is a broader focus on making life easier – and better – in the operation. For this to occur, it is vital to plan in the staffing time and the management preparation for these meetings.



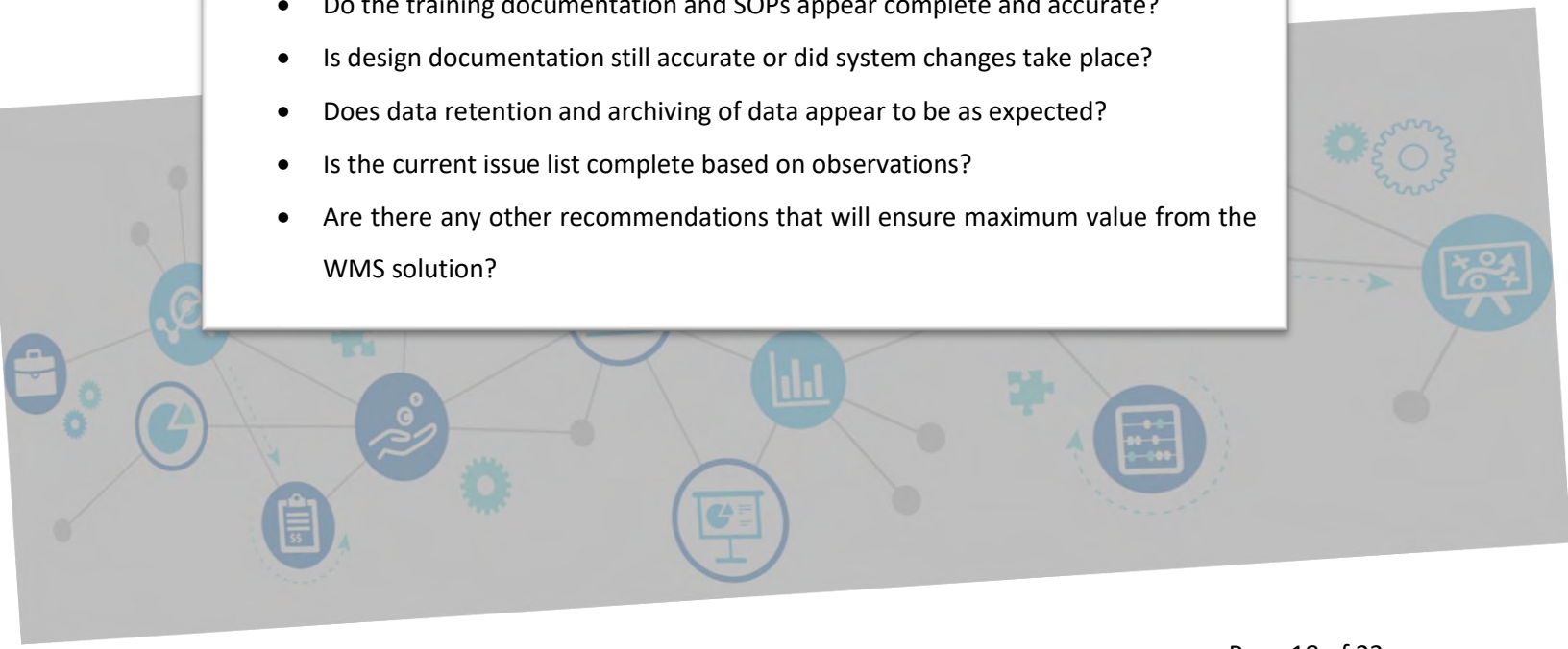
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A PHASE 5?
OPTIMIZE

In order to truly realize the benefits of the new software, companies should conduct post-implementation audits by parties outside of the core project team sixty to ninety days after dedicated on-site support is no longer necessary and the issue list has been completed. This time and effort is rarely planned; a WMS implementation can be a stressful journey and clients often want to "just let it run" once the go-live phase is complete.

However, an outside party that was not invested in the process that was undertaken to get the operation to this point can provide a fresh perspective. Such an audit should include answering the following questions:

- Are key measures of productivity moving in the right direction?
- Are there steps in the process that don't appear efficient?
- Do the training documentation and SOPs appear complete and accurate?
- Is design documentation still accurate or did system changes take place?
- Does data retention and archiving of data appear to be as expected?
- Is the current issue list complete based on observations?
- Are there any other recommendations that will ensure maximum value from the WMS solution?



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IN CONCLUSION

A WMS implementation can be a positive experience producing numerous quantitative benefits including reduced labor costs, improved equipment utilization, and better storage optimization, not to mention other qualitative benefits such as improved visibility, clarity of workflow, and system risk mitigation.

Companies planning a WMS implementation do well to consider the under-planned elements discussed in this document as they structure their project. It is vital to start with a clear and comprehensive picture of all the tasks that a high-quality project will require. Such planning can prevent the loss of momentum and excitement that can happen on WMS implementation projects as timelines, cost, and expectations are adjusted because of incomplete plans.

Completing the picture of the true effort and tasks involved in a WMS implementation will help ensure that the distribution center emerges from the project more efficient and better organized than it was before, and that the project will exceed expectations.

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ADDITIONAL RESOURCES:

Whitepaper: An Objective Guide to Selecting a WMS

Whitepaper: Six Tips to Avoid a Failed WMS Implementation

Whitepaper: Beating Murphy's Law on Warehouse Automation Projects

Whitepaper: Five Ways to Meet the Challenges of E-Commerce Distribution

Whitepaper: Six Ways to Postpone – or Eliminate - Your Distribution Center Expansion

Whitepaper: The Picking Playbook

Whitepaper: The Packing Playbook

Whitepaper: Distribution Center Design Series – Part I: Developing a Storage Design Tool

Whitepaper: Distribution Center Design Series – Part II: Developing a Throughput Design Tool and Determining a Pick Strategy

Whitepaper: How to Choose the Right WMS - Part I: Distribution Center Process Optimization

Whitepaper: The Ultimate WMS Preparation Guidebook

Whitepaper: Selecting the Right WMS

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ABOUT THE AUTHOR



CAL PETTY

Mr. Petty is the Vice President of Software Consulting at Commonwealth Supply Chain Advisors and has over twenty-six years of experience in supply chain technology management and consulting. Over his career, he has helped companies reduce their distribution labor costs, improve space utilization, optimize equipment use, and meet their customer service objectives.

Prior to joining Commonwealth, Mr. Petty served for five years as Practice Director of Technology for Johnson Stephens Consulting and two years as the Practice Director for Peach State's Software & Technology Practice. Both practices focused on WMS assessment, selection, and implementation.

Previously, Mr. Petty worked at CIBER (NYSE: CBR) in consulting and management roles for nine years, including seven as Director, Supply Chain, where he focused on the Supply Chain Execution (SCE) software space. His experience at CIBER ranged from supply chain ROI analysis projects to software selections to implementations of WMS, TMS, YMS, Visibility, and complete ERP solutions.

Mr. Petty began his career at Cambar Software, one of the first supply chain execution providers to offer a highly functional solution running on smaller server platforms and relational databases yet still capable of scaling for Fortune 1000 clients. Mr. Petty managed projects and services teams in the successful implementation of over twenty client systems while at Cambar.

Mr. Petty earned a Bachelor of Science degree in Information and Computer Science from the Georgia Institute of Technology. He has been frequently interviewed and quoted in industry and vertical publications, and has also served as a speaker, presenter, or panelist at many industry events and conferences.

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ABOUT COMMONWEALTH SUPPLY CHAIN ADVISORS

Commonwealth Supply Chain Advisors is a leading supply chain consulting firm that helps companies of all sizes optimize their supply chain networks, design distribution centers, and select and implement Warehouse Management Software (WMS). Commonwealth has offices in Boston and Cincinnati. Every year since 2013, Commonwealth has been named a "Top 100" supply chain partner by Supply Chain Brain publication. Commonwealth's insights are widely respected and regularly published in journals such as Supply Chain Management Review, Supply Chain Quarterly, and The Wall Street Journal. For more information, visit www.commonwealth-sca.com



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